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EXPERIENCES WITH EARLY MAN IN AMERICA.

By CHARLES H. STERNBENG, Lawrence, Kan.

Read before the Academy, at Topeka, January 1, 1903.

AS there are constantly, at present, newspaper stories of early man, based on the remarkable relics found in the river drift near Lansing, it has occurred to me that it might be of interest to tell of some of my experiences in a much older field, as well as a discovery I made that I have always considered of great scientific value, in the Pleistocene of Washington. As I will be obliged to repeat what I have to say on "Pliocene Man" from a paper I wrote for *Popular Science News*, I will first speak of Pleistocene man in Washington.

In the winter of 1877 I learned from an army surgeon that a great excitement had occurred in the Pine creek region of eastern Washington by the discovery there, in what the natives call mud springs, of some well-preserved skeletons of the hairy mammoth. I started at once for that field, and learned that a man who had lost a cow had followed the usual custom of probing with a long pole the various springs on his range, in order to see whether she had gone into one, and thus avoid the necessity (if she had) of making a long tramp in search of her. The point of his pole seemed to enter a small hole, like the occipital foramen of a large skull. He had some grappling-hooks made on the end of a strong iron rod, and with the assistance of his neighbors dislodged the skull, for so the object proved to be when brought to the surface. The huge proportions of the skull astonished the whole country round. A showman chanced to be in reach, and, during the high tide of popular wonder, purchased it for the snug little sum of $1000, put it under canvas, and realized rich returns from his venture. The men in the vicinity concluded there was a greater fortune in draining their swamps and exhuming extinct elephants than in raising wheat, and so went to work as fossil-hunters. One man, I learned, mortgaged his farm to raise funds for draining a large swamp on his place, and got a fine collection of these extinct creatures. But the popular excitement had ebbed, and there was not a convenient showman around to invest in elephant bones; so he was forced to place them on exhibition at a college in Forest Grove, Ore., receiving in return the free tuition of his son. Of course he lost his farm.

I at once, after looking over the ground and selecting a site, with the assistance of two men, began the work of draining a spring a few yards from Pine creek. Here, as in all the swamps in the region, was an open place, circular in form, filled with soft mud. The edges were composed of peat moss. After penetrating this we passed through compact yellow clay, and twelve feet below was a bed of gravel, in which the bones were entombed. As the mouth of the spring was only two feet higher that the creek, we could only drain our spring to that depth. Every morning the water was up to this level, and we had to spend the greater part of the day in bailing out the mud and water; the little excavating we could accomplish added to our labors the next day, as we had more water to bail out. We worked for weeks in this way, and at last were rewarded, not with bones of the mammoth, as we hoped, but a number of skulls of the American bison, or buffalo. As they represented larger animals than the buffalo of the plains with which I was familiar, I supposed them to be extinct forms. Prof. E. D. Cope, however, assured me they belonged to the common living species. In one of these skulls I found an arrow-point of flint roughly worked. To my mind this was an important discovery, as the elephant bones were in this same bed of gravel, and I saw on the discarded dumps of the farmer fossil-hunters not only discarded elephant bones, but those of this same buffalo as well. So my discovery proved that man, the buffalo and the hairy elephant were contemporary in Washington. At what time is a harder problem to solve, but I saw remarkable evidence that it was long ago this gravel-bed was laid down, for I found in Oregon, under about 2000 feet of lava, this or a similar deposit of gravel, with the bones of the same variety of buffalo I found on Pine creek, in Washington. This discovery did not appeal very strongly to the imagination of Professor Cope, and I have never known whether he published a record of it or not. Possibly the great age of the buffalo on our continent was new to science; the fact that man and the great northern elephant existed at the same time was well known years before. Especially do the records of the icy barriers of the region towards the north pole bear incontestible evidence of this fact. Man was so familiar with this huge animal that he carved his likeness on its ivory.

I think this discovery is worthy of note, as it extends the southern range of man himself into the United States. When in 1894 I discovered the large deposit of teeth and bones of the mammoth in Lane county, remembering my experience in Washington, I searched carefully for human bones or implements associated with them, but without success. I would like to have been able to extend man's journeys from Washington into Kansas. Very likely the man whose skull was found at Lansing often saw droves of these great elephants.

I will now pass on to "Pliocene man." An article under this head appeared in the American Naturalist in 1877. The whole is enclosed in quotation marks, and was a copy of a letter I wrote to Prof. E. D. Cope from a locality I named Fossil lake, in the desert of eastern Oregon—a name it still retains. I was sent there by the professor in August of that year. My letter of instructions advised me to look for human implements mingled with the extinct animal remains I was sent in search of; to write at once if I found any, their manner of occurrence, etc.

As one part of the story of the Pliocene man was told in the article, and as I was really the author of it, though my name does not appear, I have often felt it my duty to tell the end also, which, in this instance at least, proved to my mind that I was entirely mistaken in regard to man being contemporary with the Pliocene animals, birds and reptiles that I found so abundant at Fossil lake. I was young, and anxious to be able to say that I was the first collector to find traces of man so far back in the world's history, associated with the extinct horse, llama, elephant, etc. But I was also conscientious, and wrote the professor of the discovery I made later, which I am about to relate.

When I arrived one evening at the famous lake, after traveling across half the continent to find it, you can imagine I was too anxious to look for specimens to think of anything else; and when my guide, Mr. Duncan, of Silver Lake, Ore., pointed out the shores of a small alkaline lake that we had reached, after a journey of twenty-eight miles through a trackless desert of sage-brush and sand-hills (from Button's ranch, on the California road), and said, "There is the bone-yard," I requested him and my assistant, George Loosely, of Fort Klamath, Ore., to pitch the camp and get supper, seizing my collecting bag I rushed to the grounds. I found the lake occupied an area of about three acres; its margin was covered with loose sand, and below were the clay strata of the Equus Beds of the Pliocene.

The lake had anciently covered a much larger area, and was gradually drying up. To the northeast, I believe, were large piles of sand that were constantly being drifted away by the action of the prevailing winds. Scattered through the loose sand and on the clay bed were great numbers of teeth and bones of horses, llamas, etc., as well as bones of birds and reptiles, lying loose on the surface—a veritable bone-yard indeed. I was down at once on the ground, picking up bones and teeth and putting them in piles. No two bones seemed to belong together. The skulls and arches had been crushed beneath the feet of animals, probably cattle and deer that had come to drink. What pleased me most was the fact that scattered among these remains were arrow- and spear-heads of polished obsidian. Not a bone or tooth did I find in its original position, but loose, detached, and scattered, with the implements lying among them in the same way. I was too much excited to think of that fact then.

As Mr. Duncan was to return to the post-office at Silver Lake the next day, starting at daylight, I gathered a cigar box full of the loose teeth, arrow- and spear-points, and packed them to go to the professor by mail. That night, by the light of a sage-brush fire, I wrote the letter he saw fit to publish as soon as he received it. I then honestly thought the implements and bones with which they were mingled were of the same age.

A few weeks later, in search of a new fossil field, I started out among the sand-hills and sage-brush. Rather late in the day I was attracted by seeing the top of a dead spruce sticking out of a high sand-hill. My curiosity was excited, and I climbed to the top of the hill to examine it. It may have been covered with sand for probably a 100 years. I was, however, attracted by a pleasant little valley, scooped out by the wind, on the other side, and, going down to it, found I had stumbled upon the site of an old Indian village. Even the places where their lodges had stood were marked by piles of bleached deer and antelope and other bones of existing species. In front of where each lodge had stood was a large stone mortar and pestle of volcanic rock, probably used by the squaws for grinding acorns and other seeds for making bread. I soon found where an ancient arrow-maker had his shop. Scattered around were great piles of flakes of obsidian, as well as quantities of broken and perfect arrow- and spear-heads, beautifully polished and finished, as well as drills, knives, and the like. Not a sign of anything made of iron could I find. I pulled out from the base of a sand-hill a piece of the back part of a human skull. I also found a spring of cool water that had brought up enough fine sand to build a circular mound five feet above the level of the valley. Doubtless a sand-storm had forced the villagers to flee for their lives, and they were unable to save the mortars. I could not tell how large the village was, as it evidently continued into the sand-hills beyond.

As night was approaching, I gathered up all the lighter implements I could conveniently carry and started for camp. Darkness overtook me before I reached it and I came very near being lost. I gave my pony the rein. and when I concluded I was near camp I shouted to my only companion. At last I was delighted to hear George Loosely's welcome answer; but even then I could not reach it on account of a deaf ear that prevents me from locating sound, and I was obliged to wait until he came to me and guided me back in safety. After this adventure I never again attempted to find the village.

The arrow and other points were the same as those found at Fossil lake, though not so much injured by the weather because longer covered with sand. . . . I concluded, therefore, that the bones of the extinct animals had been covered with sand, protected by sage-brush. It would naturally be a good place for game, on account of the water. The Indians would lose many arrows and spears. A powerful wind, like the one that covered the village, drifted the sand away from over the bones. Arrows, being heavy, would drop down until they became mingled with the bones, and may not have been over a hundred years old.

This experience has taught me caution in accepting the first evidence of ancient man that comes along. Paleontologists wish to add to their reputation by discoveries in the remote past, and it is natural for them to take the first evidence that comes to hand, so they may have the credit if it proves of value. If they are, after all, mistaken they either stick to their first opinion with a determination that seems foolish to an outsider, or back out as gracefully as possible.

Although I have spent many years collecting extinct animals, the arrow-head in the buffalo at Pine creek, Oregon-Washington, is the only evidence I ever found pointing to the great age of man in America. It has always seemed a little remarkable. I suppose that man lived during the time when sand and clay were being deposited in inland lakes. As sand acts as a reservoir for water, grass and other vegetation cover the deposits, thus protecting them from denudation, and the contained fossils are hidden from view. A chance discovery, like that at Lansing, is not likely to be often made; so we may only accumulate the evidence wanted through a long series of years. So it is very important that when a discovery is made it should be substantiated by the great authorities in this line, and be put on record in such a way it cannot be questioned in the years to come, as have, for instance, the Calaveras county man and similar discoveries.

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